

were Belgian hares, for reasons connected solely with the internal administration of the animal house. These animals were subjected to increasing doses of the thyroid protein, until the serum of one of them on being tested gave a good precipitation with the material used in the immunizations. The thyroid protein is quite toxic to rabbits. We lost several, and all lost weight during the period of immunization. The total final number of rabbits, eight in all, were bled to death and the serum carefully collected, freed of corpuscles and filtered through a thin infusorial filter. It was then tested for its specific reaction, which at 1 to 10 gave a large precipitation within a few minutes. From this point I made a radical change in the technic. I was not able to bring myself to feel that it was safe to dispense this native serum, on account of the possibility of the presence of tetanus spores, without chemical sterilization. I therefore added trikresol to it precisely as is done in the manufacture of diphtheria antitoxin, and allowed the serum to "lager" for six weeks. When it was tested again for its specific reaction at the end of this time, I was able to observe no change. This serum was then kept at low temperature until dispensed.

Dr. P. K. Brown, of San Francisco, tried this serum in several cases of active exophthalmic goiter, with absolutely negative results. Not only did the serum produce no change or amelioration of the symptoms or signs of the disease, but large amounts of the serum could be injected without the causation of any results whatever. In other words, the serum was neither curative nor toxic.

Observations on the serum were occasionally made after the determination of its negative value in the treatment of exophthalmic goiter. The specific reaction gradually decreased, and finally within a year after the serum was prepared, it could no longer be elicited. Evidently the precipitating protein is denatured on standing, probably through a reaction of hydrolysis.

4522 Locust Street.

CHRONIC INFLUENZAL RHINITIS PROMPTLY IMPROVED BY VACCINE THERAPY

CHARLES C. GRANDY
CHICAGO

The following case of chronic influenzal rhinitis seems to merit report because of the prompt and decisive curative effect of inoculations with heated influenza bacilli.

About four years ago the patient, a physician aged 54, had an attack of influenza and ever since there has been a more or less profuse discharge from the nose, at times so abundant that several handkerchiefs would be soiled during the forenoon, even when nasal washes were frequently used. At the time of the first examination (Aug. 4, 1910) there was a very profuse mucopurulent or purulent nasal discharge which contained many polymorphonuclear leukocytes and some bacteria, including a Gram-staining coccus and a Gram-negative bacillus. On plates of blood-agar (human), the discharge gave rise to some large white colonies composed of staphylococci, and surrounding these, many small dewdrop-like colonies which were difficult to see and which were composed of bacilli. Pure cultures were obtained on slanted blood-agar. The bacillus was not motile and was regarded as an influenza-like bacillus because it was small, Gram-negative and grew in symbiosis, forming minute colonies. A few days later, plates were again made from the discharge with practically the same results. At this time, the patient's opsonic index for the bacillus was 0.3. Contrary to expectations, this bacillus was not subject

to much spontaneous phagocytosis,¹ and no difficulty was experienced in estimating the opsonic index. A vaccine was prepared from the bacillus, by heating at 56 C. for thirty minutes, and 12,000,000 bacilli injected hypodermically without any apparent effect, except that the opsonic index now became normal; on the second day the index was 3; on the third day 5; and on the fourth day 12. Four days later 50,000,000 bacilli were injected and on the following day the patient felt sick and could not eat or sleep; the discharge did not seem quite so abundant and smears showed that leukocytes had taken up a great many bacilli; very few cocci were present in the smears, and on plating a loopful of the discharge on blood-agar, only three colonies of cocci developed, as compared with a large number of colonies of the influenza-like bacillus. Six days later the discharge as ordinarily obtained did not contain any bacteria; on sneezing, however, the material produced contained many bacilli, most of which were inside of leukocytes, some leukocytes being crowded to the utmost with bacilli. The patient was now given an injection of 100,000,000 bacilli, which did not cause any symptoms, and on the following day the nasal discharge had diminished very much. From now on the discharge decreased daily and in two weeks it had practically ceased.

The patient went to his home in Colorado August 28, and the injections could not be continued regularly after that time. In a letter dated November 4 he wrote that he had been in the best of health, but that there was still a little discharge.

1743 West Harrison Street.

RÖNTGENOGRAPHIC EXAMINATION OF THE BLADDER

JOHN M. GARRATT, M.D.
BUFFALO

Considerable progress has been made of late in the diagnosis of displacements of the stomach and large intestines and in demonstrating irregularities in their walls by means of the Röntgen rays, following the ingestion or injection of bismuth solutions. It has occurred to me that distention of the urinary bladder with bismuth solution and immediately taking a Röntgenograph would be of value in outlining its (a) position, (b) size and (c) conformation and that irregularities in the vesicle wall as, (d) projection of tumors, (e) diverticula or pouching and (e) anomalies could all be diagnosed and the approximate size and shape of the deformity would be shown in a permanent record.

It is not always easy or advisable to use the cystoscope in certain diseases of the bladder, and in some forms of prostatic hypertrophy it is practically impossible to insert the instrument; while in some instances it would be an absolutely dangerous procedure. In most cases there is no objection to it, and it is easy to insert a sterile catheter through which passes the solution used to bring about the distention. The process is completed by taking the Röntgenograph.

TECHNIC

Pass a sterile, soft catheter and irrigate the bladder with boric acid solution. When the washings come away clear, measure its capacity, with the bladder empty, distend with the measured quantity of the following solution:

	Gm. or c.c.
Bismuthi subcarbonatis	50.
Kaolini	250.
Aquæ destillatæ	1000.

(Formula of Dr. Haenisch of Hamburg, Germany, and used by him in examination of the large intestines.)

1. Tunnick and Davls: Spontaneous Phagocytosis of Fusiform Bacilli and Influenza Bacilli, Jour. Infect. Dis., 1907, iv, 66.